

Specifications for
Pipe Jacking
for
EBIS Beam Port
Building 930

MARCH 6, 2006

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QA Level: (A3-Minor)

Specification # CAD-1180
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STATEMENT OF WORK

In general, the work consists of, the core drilling of concrete walls in buildings 930 (LINAC) and building 942 (LTB) and jacking of a 10” dia. ductile steel pipe between building 930 and building 942 in the AGS complex at BNL.

DRAWING INDEX

Number	Title	Date
1910 001	PLAN AND SECTIONS	3-06-2006

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DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS
SECTION 00700 – GENERAL CONDITIONS

GC-1. DEFINITIONS

A. As used in these Specifications, the following have the meaning shown opposite each:

1. BNL – Brookhaven Science Associates, operator of Brookhaven National Laboratory.
2. PE – BNL's Plant Engineering and its authorized representative.
3. C/AD – Collider/Accelerator Department's authorized representative
4. BNL Site – Land occupied by Brookhaven National Laboratory, Brookhaven Township, Suffolk County, New York.
5. Site – Immediate area of BNL Site assigned to Contractor for performance of work.
6. Work – Includes but is not limited to all labor, materials, tools, and equipment required and reasonably inferred by Contract to complete all construction.
7. Contractor – Person or entity identified in Lump Sum Contract and responsible for completion of all work.
8. Subcontractor – Person or entity directly contracting with Contractor including one who furnishes material worked to a special design according to Drawings and Specifications, but not including one who merely furnishes materials not so worked.
9. LINAC(Bldg 930) - LINear ACcelerator Building 930
10. LTB (Bldg 942) - LINAC To Booster, Building 942

B. Words such as provide, furnish, install, and include, mean work by Contractor. Words such as approved, directed, and inspected, mean PE's approval, direction and inspection.

C. In the interest of brevity, words such as "Contractor shall," have been omitted from some sections of the Specifications.

GC-2. SCALE OF DRAWINGS

A. Drawings are generally to scale, but follow indicated dimensions.

GC-3. REFERENCE DRAWINGS

A. Drawings of existing building and site are available for reference at Building 911B.

GC-4. MANUFACTURERS' SPECIFICATIONS

- A. Federal agencies, to the extent practicable, are required to amend procurement practices so as to utilize, to the maximum extent, construction materials that have been produced with the use of recovered (recycled) materials. For the purposes of this project, where applicable, technical sections that may include building insulations, blast furnace slag containing cement and concrete, carpet, floor tiles, patio blocks and traffic barricades have been prepared in compliance with Federal Regulation 40 CFR Part 247.

GC-5. VOLATILE ORGANIC COMPOUNDS (VOC'S)

- A. Volatile Organic Compounds (VOC's) and their emissions are controlled under the New York Codes, Rules and Regulations of the State of New York. Architectural surface coatings must comply with 6NYCRR Part 205. Coating lines must comply with 6NYCRR Part 228.
 - 1. For the purpose of the BNL location, Nassau, Suffolk, Westchester and Rockland Counties fall under the compliance rules of the New York City metropolitan area.
 - 2. All coatings and coated products to be used in the work, shall comply with the appropriate rules and regulations.

GC-6. PRICE-ANDERSON ACT

- A. Radiological protection is controlled under the requirements of Title 10, Code of Federal Regulations, Part 835, "Occupational Radiation Protection" (10 CFR Part 835).
- B. The provisions of this CFR apply to any activity carried out pursuant to this contract by the Contractor, its subcontractors, suppliers and employees that has the potential to result in the exposure of an individual to radiation or radioactive material.
- C. The Contractor shall comply, in full, with all applicable requirements of this CFR and shall implement, document, report on, and maintain the required work documents, as necessary to ensure its full compliance.

GC-7. WORK PERMITS

- A. The work of this Contract is controlled by BNL ES&H Standard 1.3.6, "Work Planning and Control for Operations," latest edition.
- B. A Work Permit, prepared by BNL and signed by the Contractor, shall be posted or on hand at the project site. By signing the Work Permit, the Contractor indicates that they understand the hazards of the job and the permits required.
- C. A Tool Box Meeting shall be held by the Contractor to discuss any requirements noted on the Work Permit with all Contractor and Subcontractor personnel assigned to the Work.

A Tool Box Meeting Log shall be kept on the Job Site and be available for auditing by BNL.

GC-8. NOTICE TO PROCEED

- A. The Contractor shall not knowingly, without formal notice from PE and C/AD, prematurely commence operations on the BNL Site. The “Notice to Proceed” will not be issued by PE prior to receipt, by Contracts and Procurement, of all required bonds and insurance documents, and prior to receipt, and approval by Plant Engineering, of the required Safety Plan.

Work may proceed, however, in the preparation and submittal of required submissions and the ordering of materials and equipment that do not require prior approval by PE.

GC-9. WORK HOURS

- A. Perform all work on weekdays, excluding BNL holidays, between 8:00 a.m. and 5:00 p.m., unless otherwise specified or approved. BNL holiday list available upon request.
- B. Notify CA/D and PE 24 hours in advance to request approval to work outside of the above working hours. Advise C/AD and PE of all planned activities and submit a list of all contractor and subcontractor employees who are expected on-site during the off-hour period. All employees working during off-hours must possess a valid BNL contractor employee photo identification badge (see GC-11).
- C. If off-hours work request is approved, PE & C/AD will notify BNL Police Headquarters and the Main Gate of the days and hours that work is planned. Failure to notify PE-C/AD will be cause for BNL Police to deny access to the job-site.

GC-10. CONSTRUCTION NOTIFICATION

- A. C/AD must be notified and made aware of all construction work-in-progress.
- B. When construction has not been previously scheduled, notify PE Construction Inspector each day before 9:00 a.m. of planned activities.
- C. PE will provide telephone extension numbers.

GC-11. IDENTIFICATION OF EMPLOYEES

- A. All Contractor and Subcontractor employees must attend the Contractor/Vendor Orientation Training Course (see GC-12), and be approved by BNL in order to work on the BNL site. A contractor employee photo identification badge will then be issued in order to have access to the site.
- B. U.S. citizens must bring proof of citizenship. Acceptable proof is a passport, birth certificate, naturalization papers, voting eligibility, or similar documentation. Drivers’ license, military ID cards, union cards, and Social Security cards are insufficient by

- themselves as proof of citizenship. Upon arrival at the BNL Main Gate, they will be sent to the trailer to process their paperwork after which they will be granted access to the site. As workers submit their information and documentation, BNL will update the BNL database. When a worker has been approved, and database has been updated, he or she will no longer be sent to the trailer upon arrival, but will be allowed to proceed to the jobsite.
- C. All Non-U.S. citizen workers, including PRA's, requiring access to BNL must complete a BNL form 473C. The workers shall complete the personal information blanks and the information concerning their company. Additional information will be entered by BNL on a continuation of the form after the form is submitted. A blank form 473C has been issued and is available and should be reproduced for use by all Contractors' foreign national workers. Non-U.S. citizens shall also bring documentation showing eligibility to be in the United States. This includes a valid passport and visa. Examples of other documentation necessary to establish legal status are a resident alien card, passport entry "processed for I-551," INS documents I-94, I-20, DS-2019, IAP-66, or I-539 part 3. Upon arrival at the BNL Main Gate, Non-U.S. citizen workers will be sent to the Visitors Trailer to process their paperwork, after which they will be granted access to the site. All foreign national contractor employees are responsible to ensure they remain in legal INS status. Their BNL ID badges will expire on the expiration date of their current legal status or one year after issuance, whichever comes first. At that point, they must reapply with updated documentation to continue eligibility to work at BNL.
- D. The Contractor shall assure that all Contractor and Subcontractor employees promptly obtain a current BNL contractor employee photo identification badge. Badges shall be obtained in the Lobby of the Brookhaven Center, Bldg. 30, Monday through Friday, between 8:30 a.m. and 10:30 a.m. In order to keep badging times to a minimum, the Contractor should limit sending all of his employees at the same time. New contract workers will only be issued contractor ID badges (and granted access to the site) after completion of required safety training as well as presentation and approval of citizenship documents, BNL form 473 for foreign nationals, and proof of Social Security Number.
- E. Contractor and Subcontractor employees must wear the badge so as to be visible at all times while on-site.
- F. Contractor employee identification badges will be valid for the anticipated duration that the employee expects to require access to the Site as indicated on the C/VOT application. This period will be a maximum of one (1) year and will then require renewal, upon expiration, at Building 30. Badges will be provided at no cost to the Contractor. Immediately upon release of employees or project completion, Contractor's Superintendent shall return badges to Bldg. 30 Lobby. (BNL will retain badges for re-issue for one year.)

- G. Contractor employees shall report lost identification badges immediately to the Badging Office, in the Lobby of Bldg. 30.

GC-12. CONTRACTOR/VENDOR ORIENTATION TRAINING

- A. All Contractor and Subcontractor employees are required to attend BNL's Contractor/Vendor Orientation Training on their first day on site.
- B. Contractor/Vendor Orientation Training is a one and one-half (1-1/2) hour overview of BNL and OSHA safety requirements. The orientation is offered 8:30 a.m. weekdays at Building 422, Second Floor, Brookhaven Ave. at Upton Road. Upon completion of the orientation, a card will be issued that must be signed by Construction Inspection, Bldg. 650T. The Contractors' employee (U.S. citizens as well as foreign nationals) information must then be entered in the BNL Guest Information System (GIS). To facilitate this process, the following personnel are trained to enter data in GIS: Donna Pfeiffer and Claudia Hatton in Building 130, Cindy Klemm in 134C and Denise Bingham-Miesell in Building 452. The employee must then return to Security, Bldg. 30, to obtain the employee identification badge. This safety orientation will be valid for a period of one year. Satisfactory completion will be indicated by issue of employee identification badge.
- C. Contractor and Subcontractor employees who have not attended the Safety Orientation will be directed to stop work until they have done so.

GC-13. COORDINATION

- A. Arrange and coordinate work, be responsible for acts and omissions of all parties involved in the work, be responsible for satisfactory performance of all work, ensure that each trade is fully informed of full extent of work required, and coordinate installation of all equipment and shop fabricated material, including that supplied by BNL. BNL assumes no responsibility for contractual relations between Contractor and other parties.

GC-14. MEN AND MATERIALS

- A. Do not utilize men or materials which would cause work stoppage on BNL Site.

GC-15. SUBCONTRACTOR APPROVAL

- A. BNL reserves the right to approve or disapprove Subcontractors. No later than two (2) weeks after signed Contract, submit directly to C/AD and PE, a complete list of proposed Subcontractors for approval.

GC-16. PRE-CONSTRUCTION MEETING

- A. PE will set up a Pre-Construction Meeting, at which time the ES&H issues, Safety Awareness issues, Submittal procedures, and Site Organization procedures will be addressed. The Contractor's Superintendent(s), Supervisor(s), Technician(s) and Foreman is/are required to attend the Pre-Construction Meeting.

GC-17. CONSTRUCTION SCHEDULE

- A. Within ONE week after signed Contract, submit, directly to PE, a detailed work schedule which must fall within number of weeks specified.
- B. When work falls behind schedule due to Contractor's fault or negligence, increase all labor and overtime to assure completion within schedule.
- C. BNL will utilize all available contractual remedies to enforce schedule compliance. Should the Contractor encounter delays caused by BNL, it is the Contractor's responsibility to promptly notify the contracting officer and to request an extension of the contract compliance date.

GC-18. SUBSTITUTIONS

- A. Unless otherwise specified, substitutions may be made for items specified when substitutions are approved equals. Submit substitutions for approval in accordance with heading "SHOP DRAWINGS, MANUFACTURERS DATA, AND SAMPLES" in Supplementary Conditions.
- B. When proposing a substitution, submit:
 - 1. Shop Drawings providing complete descriptive and technical data. Submit samples and additional information when directed.
 - 2. Statement of effect on all other work in Contract.
- C. PE reserves right to request drawings indicating all required revisions to Contract Drawings prior to giving approval.
- D. If a substitution is approved, be responsible for all resulting changes in work and for all systems, equipment and material, functioning as originally intended.

GC-19. CONTRACTOR'S MATERIALS

- A. Obtain property pass through PE for removal of Contractor's materials and equipment from BNL Site. Schedule removals during specified work hours.

GC-20. TRANSPORTATION

- A. In transporting materials and equipment, use designated roads and railroad on BNL Site. Obtain information concerning these facilities from PE. When necessary to maintain work schedule, ship all materials, including Subcontractors' items, from point of origin to BNL Site by direct means equal to, or better than, express service.

GC-21. TRAFFIC WAYS

- A. Schedule, confine, and perform work, as directed, so as not to interfere with BNL traffic on existing roads, walks, parking and other paved areas. Park all vehicles in designated

parking areas. Load and unload vehicles where directed. Comply with all BNL traffic regulations. Violations will be back charged from the Contract amount.

GC-22. CODES AND STANDARDS

- A. Meet requirements of BNL Standards-Based Management System; ES&H Standards and other applicable SBMS standards, and all other codes and standards specified. In cases of conflict, the standard providing the greater protection shall govern.
- B. BNL is an ISO 14001 certified laboratory. It shall be the duty and the responsibility of the Contractor and his subs to comply with the BNL standards and procedures in the area of environmental control, hazardous waste generation, spill prevention, and all other standards specified herein.
- C. Copies are available for reference at PE.

GC-23. FIRE PROTECTION AND DETECTION SYSTEMS

- A. Do not modify, disconnect and, in any way, impair systems without approval.
- B. Notify PE forty-eight (48) hours in advance of all work on fire protection systems.

GC-24. OPEN FLAME OPERATIONS

- A. It shall be the duty and responsibility of the Contractor performing any cutting or welding to comply with the provisions of BNL Standards-Based Management System; ES&H Standards, and the National Fire Protection Association's National Fire Codes pertaining to such work.

The Contractor shall read and be familiar with the provisions of this Guide. The Contractor shall be responsible for all damages resulting from failure to so comply.

- B. Notify PE forty-eight (48) hours in advance of cutting, welding, or similar open flame operations.
- C. Provide any required fire watch and take all required precautions where directed.
- D. PE will make arrangements for a Cutting/Welding Permit. NO WORK shall proceed prior to the issuance of the written Cutting/Welding Permit nor shall work continue after expiration date of permit.

GC-25. PROTECTION OF PROPERTY

- A. Contractor shall be responsible for the security of property within the work site.
- B. Protect, with whatever means and methods required, all new and existing property from damage by and as a result of work in this Contract as approved, including disappearance. Refer to Attachment A, Article 14.
- C. Repair, refinish, replace and otherwise correct all damage, and replace all missing materials, as directed and approved by PE.

GC-26. TEMPORARY SERVICES

- A. All requests by the Contractor for temporary services i.e. electric power, for their own use or for use by any subcontractor, shall be made only through their designated Plant Engineering contact.
- B. All methods, materials, and scheduling of temporary services shall be as directed and approved.
 - 1. BNL will furnish, without charge, sources of water and electric power and will perform initial tie-in and removal of same. PE will, upon request, indicate locations.
 - 2. Contractor shall supply, install, maintain, and remove all equipment and required devices for temporary water, power, and lighting systems from point of initial tie-in within one hundred feet (100 ft.) of Contractor's work location as necessary to perform the work.

GC-27. SERVICE INTERRUPTIONS

- A. Do not interrupt service until directed. Notify PE two (2) weeks in advance of all proposed service interruptions unless otherwise specified or directed.
- B. Keep all interruptions to a minimum. Complete all possible prior work and prefabrication, and have all labor and materials on Site, as approved, prior to interruption.

GC-28. COORDINATION WITH BNL ACTIVITIES

- A. Coordinate and schedule all work with all BNL activities and operations through PE.

GC-29. CUTTING AND PATCHING

- A. Cut, drill, alter, remove, and replace all existing construction as required for performance of work. Patch and finish all changed and damaged work to match existing construction as approved.

GC-30. WORK BY TRADES

- A. Work of a trade is not necessarily limited to the Drawing or Specification page describing work to be done by that trade.

GC-31. SALVAGE

- A. Remove all salvageable material and equipment, as specified, and place on BNL Site where directed.
- B. All removed salvageable material and equipment, as defined in the Specifications, shall remain property of BNL.
- C. All removed salvageable and non-salvageable materials and equipment shall pass through the vehicle radiation monitor prior to disposal on the BNL site or exiting the BNL site.

GC-32. WORK AS BUILT

- A. PE will provide a complete set of prints of the Contract Drawings. Mark up accurately, showing all changes, in a neat, legible manner. Final payment will not be approved prior to receipt of approved marked up prints.

GC-33. CLEANING AND DISPOSAL OF DEBRIS

- A. Keep Site clear of debris and rubbish at all times. Burning of debris and rubbish will not be permitted.
- B. Place all debris and rubbish in appropriate containers and legally dispose of same periodically off the BNL Site.
- C. At job completion, promptly remove tools and equipment, and clean premises thoroughly, as approved.
- D. All removed debris, excess clearing, excavation and/or grading material, rubbish, and equipment, removed from the Site, shall pass through the Vehicle Radiation Monitor on East Princeton Avenue, prior to being disposed off the BNL Site.

END OF SECTION 00700

DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS
SECTION 00800 – SUPPLEMENTARY CONDITIONS

SC-1. TIME IS OF THE ESSENCE

- A. This project is to be considered as one where "time is of the essence". The contract completion date shall be adhered to. Failure to be "substantially complete" by the completion date established in the signed contract will be considered by BNL as being non-responsive and could lead to the barring of the Contractor from bidding future projects at BNL for a period of one (1) year.
- B. Substantial Completion is the stage in the progress of the Work when the Work or a designated portion thereof is sufficiently complete, as determined by PE in accordance with the Contract Documents, so as to be able to be occupied or utilized for its intended use.

SC-2. SHOP DRAWINGS, MANUFACTURERS DATA, AND SAMPLES

- A. The term "shop drawings and data" includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, similar materials and samples furnished by Contractor to explain and show in detail, specific portions of work as applicable and required by Contract.
- B. Shop drawings and data for construction shall be submitted with such promptness as to cause no delay in the work. Allow sufficient time for checking, correcting, resubmitting and rechecking. Submittals to BNL by Contractor, subcontractor, or any low tier subcontractor, pursuant to a construction contract, shall show in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., layout, form, fit, setting, and attachment details) of materials or equipment. BNL may duplicate, use, and disclose in any manner and for any purpose shop drawings and data delivered under this Contract.
- C. These contract conditions shall be included in all subcontracts hereunder at any tier.
- D. Before submitting any data for approval, the Contractor shall coordinate all such drawings and data, and check them for accuracy, completeness, and compliance with Contract requirements. The Contractor shall see that all work contiguous with and having bearing on the work indicated on drawings is accurately and distinctly illustrated and that work shown is in conformity with contract requirements.
 - 1. The Contractor shall indicate his approval on all submittals as evidence of the above coordination and review. Shop drawings and data submitted to BNL without evidence of Contractor's approval, may be returned for resubmission.

- E. BNL's technical liaison will indicate its review action on shop drawings and data and, if rejected as submitted, shall indicate its reasons therefore. No work shall be done on an item or system, including fabrication, prior to PE taking no exception. Taking no exception by BNL shall not relieve Contractor from responsibility for any errors or omissions in such drawings and data, nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with (I) below
- F. Submission of data for approval shall be accompanied by letter of transmittal, in duplicate, containing the name of the project, Contractor's name, number of drawings, titles and other pertinent data.
- G. Submit opaque manufacturer's cuts and data sheets clearly marking all applicable data. Submit five (5) copies for each submission until approved.
- H. The General Conditions portion of the Contractors monthly payment requisitions may be reduced if required Shop Drawings, Manufacturers Data, Samples and any other required submissions are not received, or until they are received in a timely manner.
- I. Except for required submissions specified below, submit Shop Drawings, Manufacturers Data, and Samples only for items where a substitution is requested. Refer to GC-18.
- J. Address all submissions to:

Brookhaven National Laboratory
 Ali Javidfar, Supervisor
 Building 911B
 Upton, New York 11973

- K. Mark all submission transmittals as follows:

JOB TITLE: EBIS Pipe Jacking
JOB NO. 1910 001
BLDG. NO. 930

- L. Required Submissions:

	Item	Shop Dwg.	Mfrs. Data	Samples	Other Data
*	1. List of Subcontractors				X
*	2. Construction Safety Plan				X
*	3. Pipe jacking platform height and width				X
*	4. Core Machine Mounting Fixture Design				X
	5. Certification of Specification Compliance				X

M. C/AD reserves right to request additional data.

N. Critical Items:

1. Submit items marked with an asterisk within **ONE** week after signed Contract.

SC-3. TEMPORARY WORK

- A. All methods, materials, and schedules for installation, operation, maintenance, and removal of all temporary work shall be approved. Upon removal, restore all property to original condition as approved.
- B. Telephone: BNL will not provide telephones.
- C. Field Office: BNL will not provide building office space.
- D. First Aid Kit: One (1) industrial first aid kit as manufactured by Acme Products, Kit Number 25, or equal, located where directed by C/AD.
- E. Storage Facilities: BNL will not provide storage space. Provide, where directed, an approved storage facility.

SC-4. POWER AND LIGHT

- A. BNL will provide a source for temporary power for the Contractor's tools and lighting. Refer to GC-26, Temporary Services.
- B. Power will be 50 amp, 120 volt, single phase complete with wire, GFI and duplex receptacle(s).

SC-5. SAFETY REQUIREMENTS

- A. All Contractor and Subcontractor employees are required to attend BNL's Contractor/Vendor Orientation Training (see GC-12).
- B. C/AD will arrange and ESH&Q Group will provide additional safety instructions, as required.
- C. Preventing the parking of vehicles on grassy areas with engines running, and control of disposal of smoking materials, is the responsibility of the Contractor's Safety Representative.
- D. Ensure gasoline-engine-driven portable generators and air compressors are equipped with spark arresters and that personnel are aware of fire break names if calls to the Fire Department [Ext. 2222 or (631) 344-2222] become necessary.

SC-6. COLLIDER-ACCELERATOR USER & GENERAL EMPLOYEES RADIOLOGICAL TRAINING

A. All Contractor and Subcontractor employees shall have the following training(s) in order to work on site for this specific project:

- 1- Contractor/Vendor Orientation (CVO) See GC-12.
- 2- RW1 (Radiological Worker 1)
- 3- Collider-Accelerator Department Access

SC-7. CONSTRUCTION SAFETY

A. The Contractor is solely responsible for Construction Safety for the duration of this Contract. He shall prepare and submit a Construction Safety Plan within two (2) weeks of the Contract signing and before the commencement of any work on site. A Safety Plan Outline is available from Plant Engineering (PE) and copies will be handed out at the Pre-Bid meeting. This plan will be reviewed and approved by the Plant Engineering and ESH&Q Divisions and shall include the following:

1. Specific assignment of an individual employed by the Contractor and named in the Plan, as well as one (1) alternate, as Safety Representative, who will be responsible for job site construction safety. The Contractor must demonstrate, with verification of completion of the “30-Hour OSHA Compliance for the Construction Industry” construction safety courses, familiarity with 29 CFR 1926, etc., the ability of the Safety Representatives to supervise the type of work for which they will be responsible. Sources for training can be obtained from PE. A Safety Representative shall be on the Project Site whenever construction activities are being performed.
2. A letter or certificate of compliance indicating that the Contractor is aware of, and has reviewed, and will comply with the safety regulations of both the OSHA Standards (29 CFR 1926/1910) and BNL Standards-Based Management System; ES&H Standards (available for reference at PE).
3. A copy of the company record of past injury, accident, fire and property damage experience, including motor vehicle, for previous two (2) years. In lieu of this data, contractor may submit the previous two (2) years industrial insurance experience modifiers or rates.
4. A descriptive outline of the Contractor's safety program indicating:
 - a. Provisions for emergency aid.
 - b. Specific identification of "Competent Person" (per OSHA), his/her qualifications, including, but not limited to, Construction Safety Awareness courses taken, applicable to the nature of this Project, and where applicable, the method of accomplishment in a specific excavation plan. Competent

Person must have had formal training, have knowledge of existing standards, and have authority to take actions deemed necessary.

- c. A program for training employees in the recognitions and avoidance of unsafe conditions and in the safety regulations applicable to this project. DOE requires that the construction contractor conduct informal "tool box" safety and health training sessions at least weekly for all employees on the worksite. Depending on the size and nature of the project, this may be accomplished in single or multiple sessions and may address different topics for different work crews. Outlines of all "tool box" training sessions shall be prepared by the construction contractor and annotated with the date, time, and names of all employees in attendance.
- d. A program to provide for the frequent and regular inspection and reporting of job site conditions relating to safety.
- e. A program certifying the safe operating condition and assuring the proper maintenance of earth moving equipment, cranes, vehicles and other such equipment, including an environmental protection spill prevention plan. A Rigging Plan shall be submitted in accordance with the conditions noted in the Supplementary Conditions clause, "SHOP DRAWINGS, MANUFACTURERS DATA, AND SAMPLES", above, whenever this equipment is to be used on Site.
- f. A program certifying the safe operating condition and assuring the proper maintenance of permanent and/or temporary light, power and electrical equipment, including protective devices (GFCI) for portable electric tools.
- g. Provisions through meetings, established contacts or other means, for the mutual exchange of information with contractor and subcontractor personnel on:
 - Changes in scope of work
 - Recognized hazards
 - Identified inspection deficiencies
 - Future phases of work
 - Potential problem areas
 - Coordination of crafts
- h. Upon approval of the Safety Plan by ESH&Q, the Contractor shall make any revisions noted and resubmit five (5) copies of the Plan to PE for distribution.

- B. All workers shall be able to comprehend the scope of work and safety instructions required to perform the job. All workers employed by the Contractor and the Sub-Contractor shall acknowledge, in writing, that they have read and understood the Project Safety Plan. If workers cannot read or speak English or are hearing impaired, an interpreter shall be provided by the contractor to ensure that the scope of work, information regarding hazards associated with the work-site, and safety requirements are relayed to them in a manner in which they can understand. The interpreter shall sign that he has explained the plan, and shall be at the work-site whenever these workers are on the job. The approved Safety Plan shall be available at the job site to all Contractor and Sub-Contractor employees.
- C. When Confined Space Entry is required, the Contractor shall have a written Confined Space Entry Program which complies with OSHA and BNL standards.
1. The program will require the Competent Person (as defined by OSHA) to:
 - a. Establish procedures and practices for safe entry and to determine if a permit is required.
 - b. Have air monitors to check concentration of oxygen, explosive/flammable gases and the specific contaminants of concern (e.g. hydrogen sulfide in sewer utility holes).
 - c. Test and monitor conditions to identify and evaluate hazards.
 - d. Prevent unauthorized entry.
 - e. Station an attendant outside permit spaces during entry.
 - f. Post procedures to summon rescuers and prevent unauthorized personnel from attempting rescue.
 - g. Develop a system for preparing, issuing, using, and canceling entry permits.
 2. Permits are required to include an identification of the confined space, its hazards, a list of authorized entrants, the purpose of their entry, and the date and duration of their permits; the current attendants and entry supervisor; and both the results of tests performed and any measures necessary to isolate the permit space and eliminate or control the hazards. The permit must also describe the acceptable entry conditions, emergency equipment and the means to summon rescue and emergency services.
 3. Authorized entrants into confined spaces must be trained to be aware of any hazards they may face and be able to recognize signs and symptoms of exposure. They must also be familiar with any emergency equipment in the confined space.
- D. The Contractor shall be required to include the applicable safety requirements in all contracts with all tiers of subcontractors.

- E. Prior to the start of construction, a pre-construction meeting shall be scheduled with the outside contractor to review specific safety requirements of the project.
- F. No work at the Site will be permitted to proceed and no payment requisitions will be authorized until the Construction Safety Plan is submitted and approved. Contractor shall proceed, however, with ordering of equipment and materials upon Contract signing, as specified in Section “Shop Drawings, Manufacturers Data, and Samples.”
- G. BNL will not tolerate non-adherence to safety requirements under this Contract. These requirements shall include, but not be limited to, all applicable OSHA Safety requirements, the BNL Standards-Based Management System; ES&H Standards, all applicable codes and regulations, and the approved Safety Plan. Failure to comply will result in BNL's direction to stop work in accordance with Article 30 of Attachment A, General Provisions. Non-compliance could also mean the barring of the violating individuals from the BNL Site. Repeated safety violations may also result in a permanent Work Stoppage under Article 30.

SC-8. CRANES, TRUCKS, MATERIAL HANDLING, AND LIFTING EQUIPMENT

- A. Contractor shall notify PE 48 hours prior to any earthwork and/or rigging operations. All cranes, boom trucks, and lifting equipment must be approved by PE prior to use. No equipment operations will be allowed until approval of equipment has been granted. Contact the PE Hoist and Rigging Inspector, (631) 344-5456, for equipment inspections.
- B. All heavy equipment, including cranes and earth-working equipment must be in compliance with OSHA, ANSI, and DOT requirements, must be in good repair, and is subject to inspection by BNL. Equipment found to be leaking oil or other fluids will not be permitted to operate at BNL.

SC-9. SCHEDULE OF VALUES

- A. Successful bidder shall submit no later than 2 weeks after contract signing the following Schedule of Values breakdown:
 - 1. General and Special Conditions
 - 2. Bond

SC-10. SPILLS OF HAZARDOUS MATERIALS

- A. When the work requires the Contractor to bring temporary fuel storage facilities on to the BNL Site, the Contractor shall be responsible for providing a temporary impermeable containment area for all fuel transfer operations in accordance with Suffolk County Department of Health Services, Article 12.
- B. If, during construction activities, a release, discharge, or spill of petroleum products or chemicals occurs, the Contractor shall:
 - 1. Immediately notify Safeguards and Security at ext. 2222 (or 911) from Site telephones or 631-344-2222 from cell phones, and C/AD, of the release, discharge, or spill.
 - 2. Immediately, per SBMS, initiate cleanup and disposal operations by a BNL approved hazardous waste management contractor, complete the operations, and be responsible for monitoring and/or sampling in the event of a spill, to the satisfaction of BNL.
 - 3. Request C/AD to initiate, per SBMS, cleanup and disposal operations with the agreement that the Contractor shall assume all costs associated with the cleanup and disposal work.
- C. The disposal of contaminated material will be coordinated by Collider-Accelerator Department's Waste Management Group.

SC-11. CERTIFICATION

- A. Certification of compliance with specification performance standards and manufacturers' specifications and directions shall be furnished for any portion of this work for which specific performance requirements and/or manufacturers' specifications are listed.
- B. It shall be the responsibility of the General Contractor to secure two (2) copies of each certification when required and transmit same to BNL.
- C. Sample Certification Form (2 pages) is attached as an exhibit at the close of the Supplementary Conditions. Each item requiring certification shall be so noted and affidavits shall be filed singly to cover each specified material, installation, application, and the like.
- D. CERTIFICATION SHALL ACCOMPANY EACH SUBMITTAL.

CERTIFICATION OF SPECIFICATION COMPLIANCE

I/WE, the MANUFACTURER/SUPPLIER and INSTALLER of _____

as specified in Section Number _____ of the Contract Documents prepared by Brookhaven National Laboratory, Upton, New York 11973 for:

(Project Title) _____

(Building) _____ (J/N) _____

(Contract Number) _____

do (does) herein certify that all materials furnished for said project do fully comply with all specification requirements as stated within the Contract Documents and further certifies that installation of this work has been performed in strict accordance with recognized standards of the industry governing such work, and all applicable Codes, Regulations, and Standards.

CONTRACTOR: _____

CERTIFICATION BY: _____ TITLE: _____

ADDRESS: _____

CERTIFICATION DATED: _____

Distribution:

Original and One Copy to:

Brookhaven National Laboratory

Ali Javidfar, Supervisor

Building 911B

Upton, New York 11973

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CERTIFICATION OF SPECIFICATION COMPLIANCE

CORPORATE ACKNOWLEDGEMENT

On the _____ day of _____, before me came _____
to me known and who by me being duly sworn did depose and say that he resides at _____
_____ that he is the officer of the said corporation executing
the foregoing instrument that he knows the seal of said corporation, that the seal affixed to said
instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said
corporation and that he signed his name thereto by like order.

Notary Public

INDIVIDUAL ACKNOWLEDGEMENT

State of _____
County of _____

On the _____ day of _____, before me came _____
to me known and who by me being duly sworn did depose and say that he resides at _____
_____ that he is the individual who executed the foregoing instrument.

Notary Public

PARTNERSHIP ACKNOWLEDGEMENT

State of _____
County of _____

On the _____ day of _____, before me came _____
to me known and who by me being duly sworn did depose and say that he resides at _____

_____ that he is a partner in the firm of _____
doing business under the name of _____
and that he executed the foregoing instrument on behalf of said partnership.

Notary Public

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END OF SECTION 00800

DIVISION 2 – SITEWORK

SECTION 02520A – CORE DRILLING/PIPE JACKING

This section describes procedures in order to core drill concrete walls and jack steel pipe.

A. General:

1. Furnish all labor, materials and equipment necessary to core drill (1) 12" dia. and (1) 14" dia. hole into the reinforced concrete walls of buildings 930 and 942 respectively and, install a 10" I.D. schedule 40 steel pipe as shown in the contract drawing. Pipe shall be jacked into the ground from the building 930 side to enter into the building 942.
2. BNL will dispose of concrete plugs once removed from walls.
3. The Building 942 (LTB) wall and new steel pipe make a 45° angle with respect to each other. BNL must approve the method of concrete drilling including the design of all special fixtures.
4. Contractor shall provide dimensional information to the C/ADProject Engineer to design the necessary platform that suits contractor's pipe jacking equipment. That data includes:
 - a. Distance between centerline of the pipe and bottom the tracks (top of the platform).
 - b. Minimum length (L) and width (W) desired for platform.
5. Since pipe jacking will take place in an indoor space, Contractor is must direct fumes to outside. BNL will provide point of exit (see plan view).
6. **BNL will provide the following items"**
 - a. Centerline of coring holes will be marked on both walls by BNL survey crew.
 - b. Removal of existing equipment necessary for platform set up.
 - c. Platform for pipe jacking equipment.
 - d. Anchorage required to counteract thrust force exerted by pipe jacking equipment.
 - e. Rigging of Contractor's equipment.
 - f. Water for cooling core bit.
 - g. Collecting of all construction debris and disposal.
 - h. Permits required for core drilling and pipe jacking and open flame operations.
 - i. Health Physics assistance to monitor coring operation at Building 942(LTB) area.

B. Material:

Pipe shall be 10" dia., schedule 40 steel pipe (0.375" wall thickness).

C. Construction:

Sharp edges must be rounded by grinding. Contractor shall provide fireproof blankets to cover cutting and grinding operation, if necessary, in order to protect adjacent experimental equipment and cables.

Space between the jacked pipe and concrete walls must be formed and filled with non-shrink grout. Grout surface around the steel pipe shall be finished smooth after forms are removed.

END OF SECTION 0252